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On-line Only Supplementary Material

Supplemental Table S1: Search strategy

Databases Searched	Search Terms
Medline, Pubmed, Cochrane Central Register of Controlled Trials (CENTRAL), Embase, CINAHL	(Gestational diabetes mellitus OR GDM OR gestational diabetes OR diabetes, pregnancy induced OR diabetes mellitus, gestational OR pregnancy, glucose intolerance OR pregnancy, hyperglycaemia OR pregnancy glycaemic index OR Pregnancy-Induced Diabetes OR Diabetes, Gestational) AND (diet* OR nutrition* OR food intake OR dietary intake OR food consumption OR calorie intake OR energy intake OR kilojoule intake OR calorie restriction OR diet* therapy OR vitamin OR nutrition* therapy OR dietary carbohydrates OR dietary fibre OR beverage OR nutrient OR macronutrient OR micronutrient OR dietary intervention OR diet supplement OR (Diet, Sodium-Restricted/ or Diet, Vegetarian/ or Diet, Mediterranean/ or Diet, Carbohydrate-Restricted/ or Diet, Macrobiotic/ or diet or Diet/ or Diet, High-Fat/ or Diet, Diabetic/ or Diet Records/ or Ketogenic Diet/ or Diet, Cariogenic/ or Diet, Vegan/ or Diet, Protein-Restricted/ or Diet, Fat-Restricted/ or Diet, Reducing/ or Diet Therapy/ or Diet, Gluten-Free)) AND (randomized controlled trial OR controlled clinical trial OR randomized OR placebo OR drug therapy OR randomly OR trial OR groups)
Web of Science, Scopus	TI= TS=(Gestational diabetes mellitus or GDM or gestational diabetes or diabetes, pregnancy induced or diabetes mellitus or gestational or pregnancy, glucose intolerance or pregnancy, hyperglycaemia or pregnancy glycaemic index or Pregnancy-Induced Diabetes) AND TI= TS= (diet* or nutrition* or food intake or dietary intake or food consumption or calorie intake or energy intake or kilojoule intake or calorie restriction or diet* therapy or vitamin or nutrition* therapy or dietary carbohydrates or dietary fibre or dietary fiber or beverage or nutrient or macronutrient or micronutrient or dietary intervention or diet supplement or Gluten-Free) TI= TS=(randomized controlled trial or controlled clinical trial or randomized or randomly or trial or groups)
Applied Social Sciences Index & Abstracts (ASSIA) ProQuest	ab(Gestational diabetes mellitus OR gestational diabetes OR diabetes, pregnancy induced OR pregnancy, glucose intolerance OR pregnancy, hyperglycaemia OR pregnancy glycaemic index OR Pregnancy-Induced Diabetes) AND ab(diet* OR nutrition* OR food intake OR dietary intake OR food consumption OR calorie intake OR energy intake OR kilojoule intake OR calorie restriction OR diet* therapy OR vitamin OR nutrition* therapy OR dietary carbohydrates OR dietary fibre OR dietary fiber OR beverage OR nutrient OR macronutrient OR micronutrient OR dietary intervention OR diet supplement OR Gluten-Free) AND (randomized controlled trial OR controlled clinical trial OR randomized OR randomly OR trial OR groups)
ProQuest Dissertations & Theses, NICE evidence search, ISRCTN, ClinicalTrials.gov	Diet and gestational diabetes
UK Clinical Trials Gateway	Diet or Nutrition and gestational diabetes

Supplementary Table S2: Results from pooled analysis of secondary maternal outcomes for the main analysis

Outcome	Diet Subgroup (to add references)	No. of Studies	No. of Women	Effect estimate	I^2 (%)
				Mean [95% CI]	
Weight gain over pregnancy (kg)		9	539	-0.64 [-1.66, 0.38]	0
	Low GI	2	170	-0.74 [-2.10, 0.61]	0
	DASH	3	119	0.08 [-3.62, 3.77]	0
	Energy restriction	1	124	1.88 [-1.95, 5.71]	-
	Fat modification	1	84	-2.00 [-4.33, 0.33]	-
	Ethnic diet	1	20	-2.20 [-7.24, 2.84]	-
	Fiber	1	22	2.40 [-2.20, 7.00]	-
Weight gain from study inclusion (kg)		11	717	-0.21 [-0.49, 0.08]	2
	Low GI	1	63	-0.05 [-1.13, 1.03]	-
	DASH	3	119	-0.36 [-1.23, 0.51]	0
	Low carbohydrate	2	157	-0.89 [-1.58, -0.20]	0
	Energy restriction	1	124	-0.67 [-1.72, 0.38]	-
	Fat modification	1	25	0.20 [-1.47, 1.87]	-
	Soya protein	2	130	-0.02 [-0.74, 0.71]	65
	Behavior	1	99	-0.30 [-1.38, 0.78]	-
				Relative Risk [95% CI]	
Preeclampsia/ eclampsia	All	5	368	1.00 [0.56, 1.78]	0
	Low GI	1	81	0.33 [0.01, 7.76]	-
	DASH	2	98	1.00 [0.22, 4.64]	0
	Energy restriction	1	121	0.99 [0.51, 1.93]	-
	Soya protein	1	68	2.00 [0.19, 21.03]	-
Cesarean section	All	13	825	0.89 [0.70, 1.13]	38
	Low GI	2	145	1.14 [0.52, 2.51]	31
	DASH	3	119	0.54 [0.40, 0.74]	0
	Low carbohydrate	3	191	1.34 [0.87, 2.05]	0
	Energy restriction	1	121	1.18 [0.74, 1.89]	-
	Soya protein	2	130	0.95 [0.58, 1.54]	0
	Behavior	1	99	0.78 [0.38, 1.62]	-
	Ethnic diet	1	20	1.20 [0.54, 2.67]	-

Supplementary Table S3: Results from pooled analysis of secondary neonatal outcomes for the main analysis

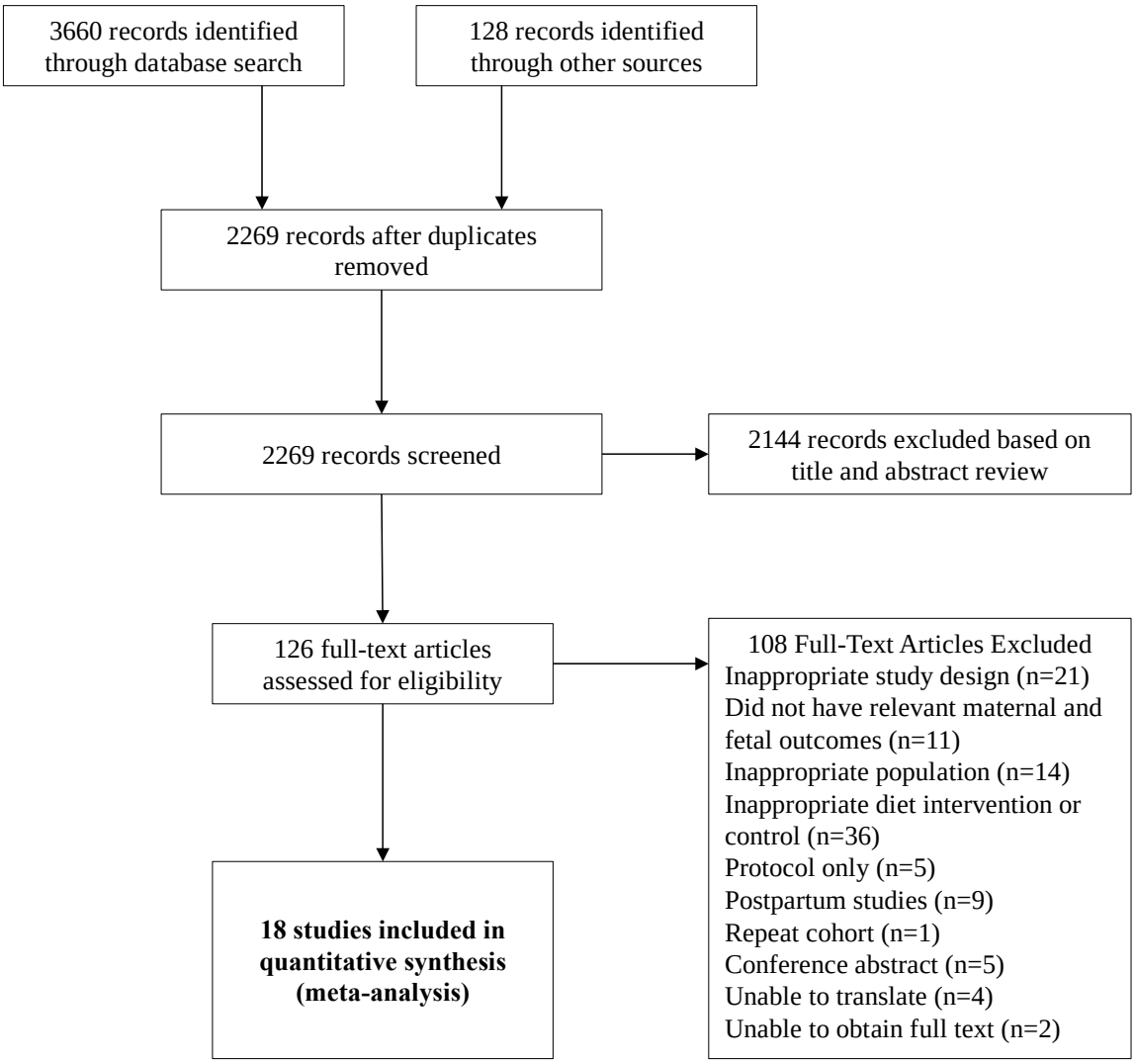
Outcome	Diet Subgroup (to add references)	No. of Studies	No. of Women	Effect estimate Relative Risk [95% CI]	I^2 (%)
Neonatal hypoglycemia as defined by the authors	All	3	320	0.77 [0.52, 1.12]	0
	Low carbohydrate	1	149	0.91 [0.39, 2.12]	-
	Energy restriction	1	109	0.75 [0.48, 1.15]	-
	Soya protein	1	62	0.44 [0.04, 4.60]	
Preterm birth	All	5	430	0.77 [0.34, 1.73]	0
	Low GI	2	179	0.75 [0.27, 2.06]	0
	Fat modification	1	84	Not estimable	-
	Soya protein	1	68	2.00 [0.19, 21.03]	-
	Behavior	1	99	0.51 [0.10, 2.66]	-
Neonatal intensive care unit	All	2	167	0.53 [0.06, 5.13]	79
	Soya protein	1	68	0.14 [0.02, 1.10]	-
	Behavior	1	99	1.33 [0.73, 2.44]	-
Small for gestational age	All	5	362	0.90 [0.47, 1.71]	0
	Low GI	3	193	1.63 [0.55, 4.83]	0
	Low carbohydrate	1	149	0.68 [0.29, 1.56]	-
	Ethnic diet	1	20	0.33 [0.02, 7.32]	-

Supplemental Table S4: GRADE

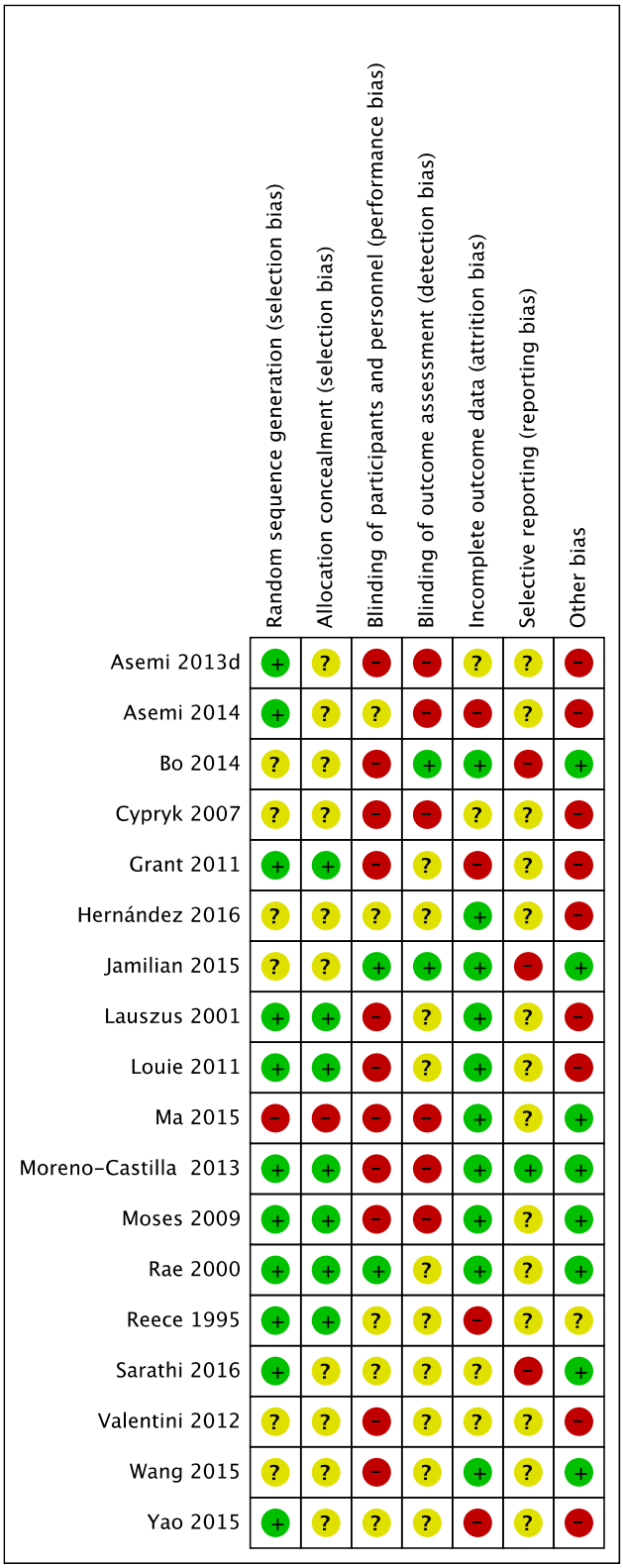
The quality of evidence is graded, described and graphically presented in four levels: GRADE[±]
1) Very low quality (⊕OOO) which means there is very little confidence in the effect estimate and the effect is likely to be substantially different from the estimate of effect;
2) Low quality (□□OO), which means there is limited confidence in the effect estimate and the true effect may be substantially different from the estimate of the effect;
3) Moderate quality (□□□O), which means, there is moderate confidence in the effect estimate, and the he true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different;
4) High quality (□□□□), which there is high confidence that the true effect lies close to that of the estimate of the effect.

Outcome	Studies	No. of Studies	No. of Women	GRADE	Downgrade Considerations
Change in fasting glucose	25, 28, 29, 21, 35, 12, 24, 27, 34, 14, 26, 23, 33	13	662	⊕OOO	Study limitations: High risk of selection, performance, detection, attrition and reporting bias. Inconsistency: Considerable Indirectness: population applicability
Change in postprandial glucose	25, 29, 21, 24, 27, 34, 14, 23, 33	9	475	⊕OOO	Study limitations: High risk of performance, detection, attrition and reporting bias. Indirectness: population applicability
Change in post-breakfast glucose	29, 24, 14	3	175	⊕⊕OO	Study limitations: High risk of performance and detection and reporting bias. Imprecision: wide confidence interval and small sample size
Change in post-lunch glucose	24,14	2	92	⊕⊕OO	Study limitations: High risk of performance and detection and reporting bias. Imprecision: wide confidence interval and small sample size
Change in post-dinner glucose	24,14	2	92	⊕⊕OO	Study limitations: High risk of performance and detection and reporting bias. Imprecision: wide confidence interval and small sample size
Change in HOMA-IR	35, 12, 26, 23	4	212	⊕OOO	Study limitations: High risk of reporting bias. Imprecision: wide confidence interval Inconsistency: Considerable
Change in HbA1c	28, 29, 21, 27, 14, 23, 33	7	407	⊕OOO	Study limitations: High risk of performance, selection, detection and reporting bias. Imprecision: wide confidence interval Inconsistency: Considerable
Medication use	13, 25, 28, 29, 21, 22, 35, 30, 31, 34, 26, 23, 33, 32	15	1023	⊕⊕OO	Study limitations: High risk of selection, performance, attrition and detection bias. Indirectness: population applicability
Birthweight	13, 25, 28, 29, 21, 22, 35, 12, 24, 31, 27, 34, 14, 26, 33, 32	16	841	⊕OOO	Study limitations: High risk of selection, performance, attrition, detection and reporting bias. Imprecision: wide confidence interval Inconsistency: Considerable Indirectes: population applicability

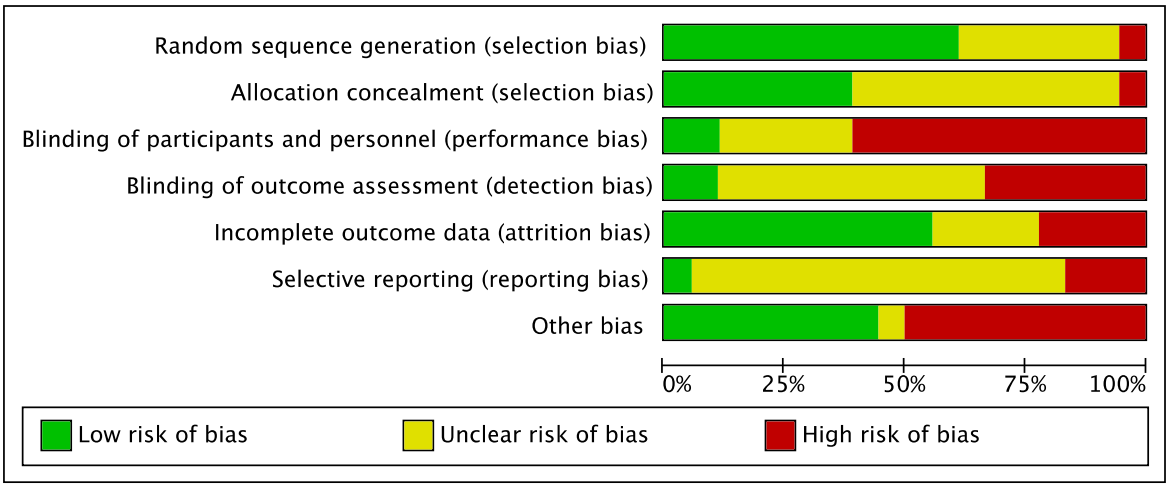
Large for gestational age	13, 25, 28, 30, 31, 14, 23, 33	8	647	⊕⊕OO	Study limitations: High risk of performance, attrition, detection and reporting bias. Indirectes: population applicability
Macrosomia	13, 25, 28, 29, 22, 35, 24, 30, 31, 34, 26, 33	12	834	⊕⊕OO	Study limitations: High risk of selection, performance, detection and attrition bias. Indirectes: population applicability



Supplemental Figure S1: PRISMA flow diagram

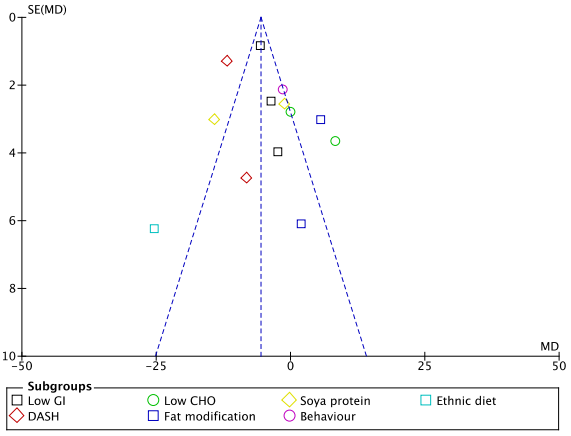


Supplemental Figure S2: Risk of bias summary

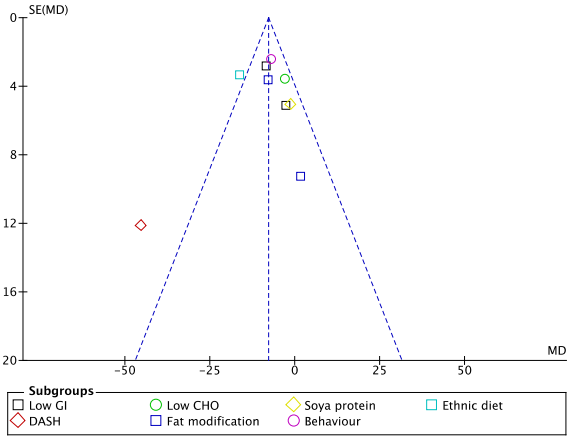


Supplemental Figure S3: Risk of bias summary

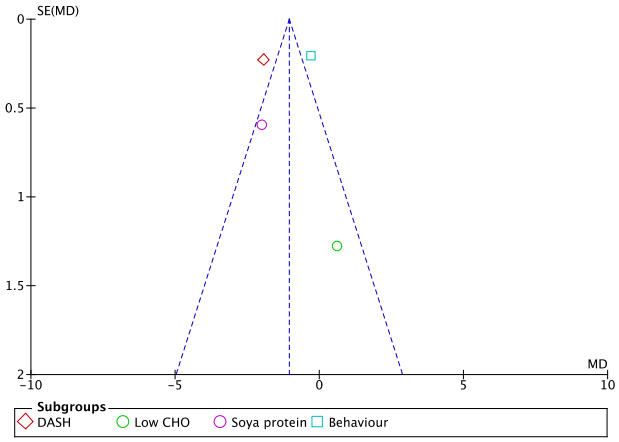
a. Change in fasting glucose



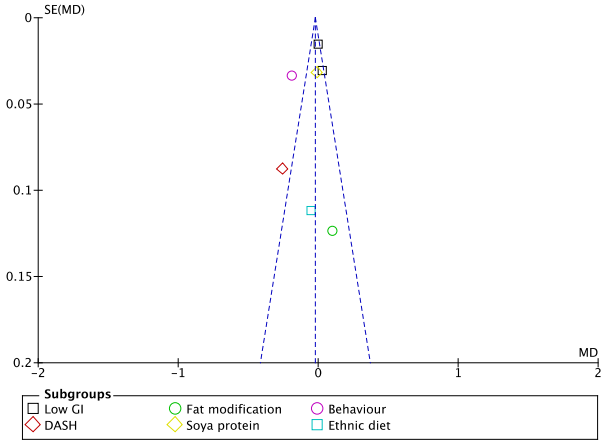
b. Change in post-meal glucose



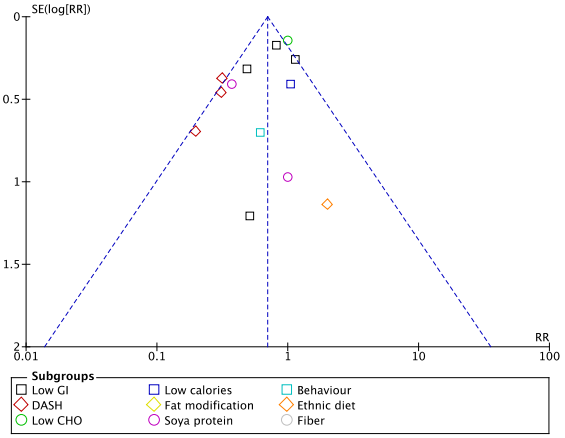
c. Change in HOMA-IR



d. Change in HbA1c

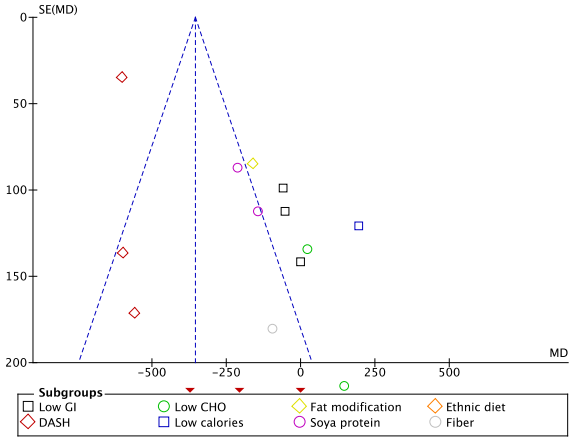


e. Relative risk of insulin use

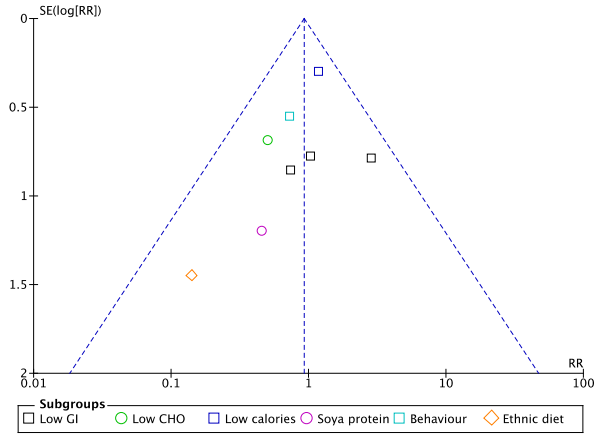


Supplemental Figure S4: Funnel plots for maternal glycemic outcomes for main analysis

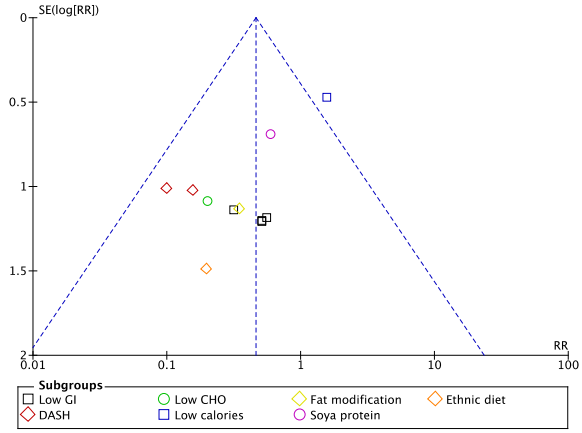
a. Birthweight



b. Large for gestational age

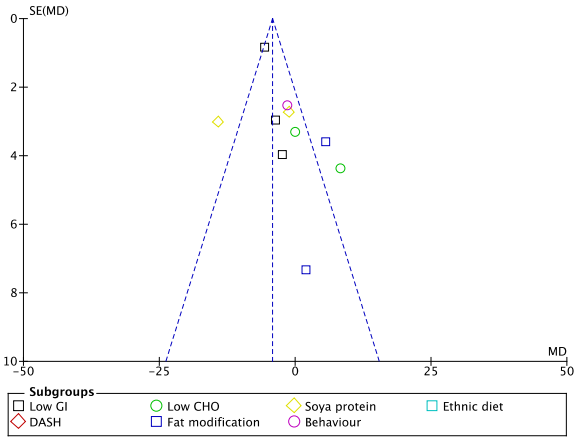


c. Macrosomia

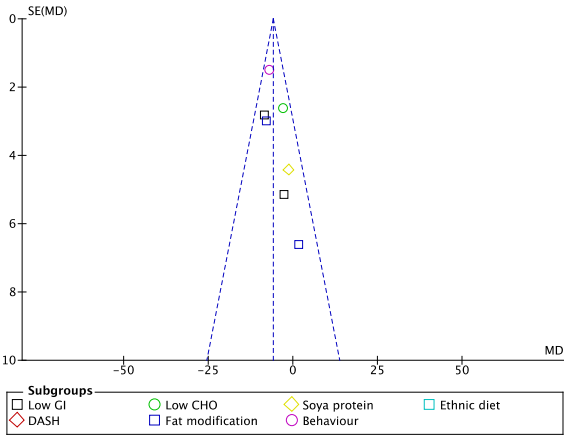


Supplemental Figure S5: Funnel plots for neonatal birthweight outcomes for main analysis

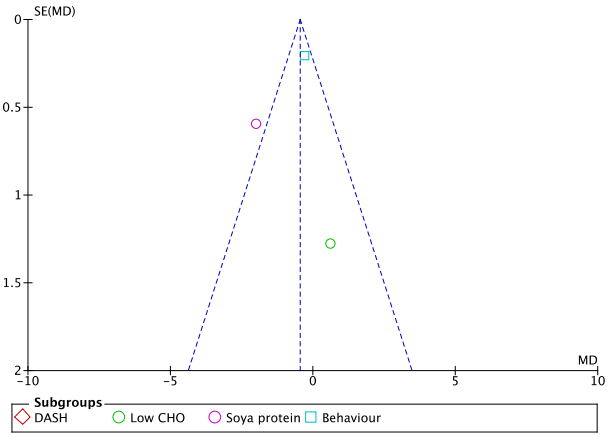
a. Change in fasting glucose



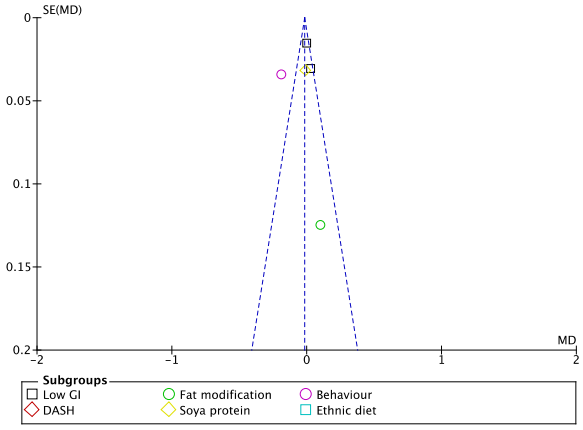
b. Change in post-meal glucose



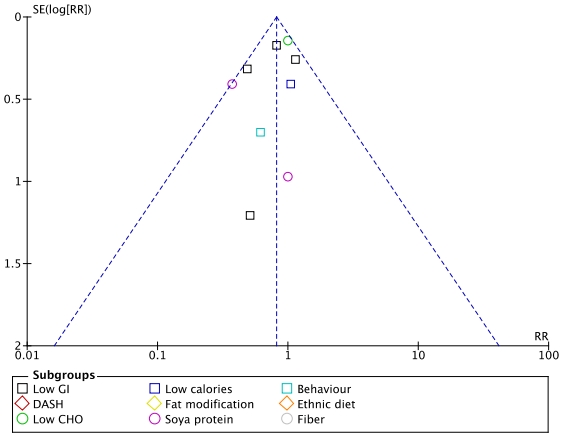
c. Change in HOMA-IR



d. Change in HbA1c

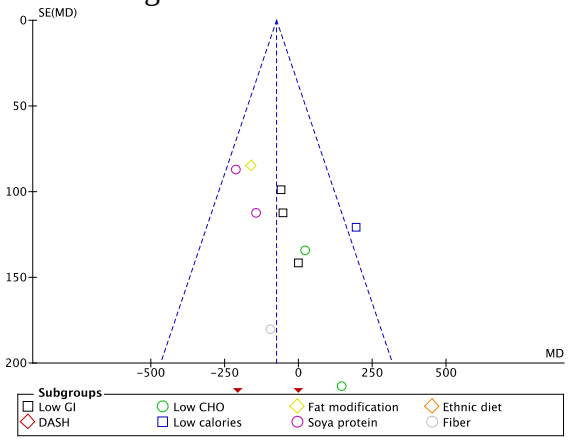


e. Relative risk of insulin use

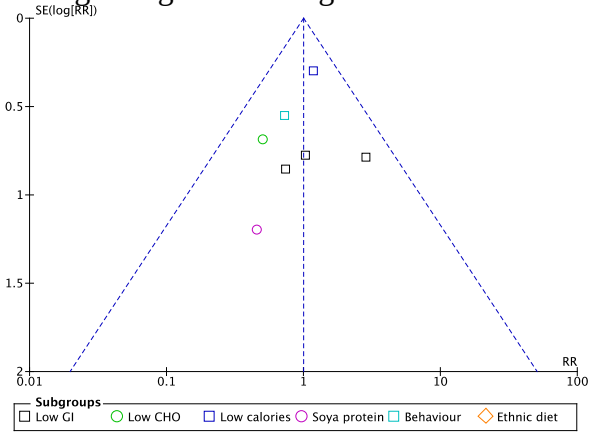


Supplemental Figure S6: Funnel plots for maternal glycemic outcomes for sensitivity analysis

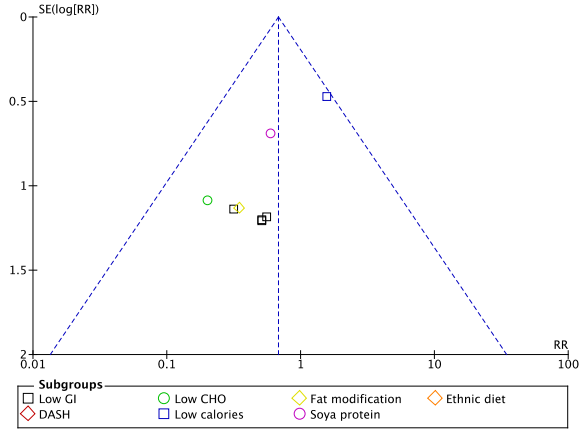
a. Birthweight



b. Large for gestational age



c. Macrosomia



Supplemental Figure S7: Funnel plots for neonatal birthweight outcomes for sensitivity analysis